

1 I claim:

2 1. A hearing aid comprising:

3 a receiver;

4 a receiver tube removably connectable to said receiver; and

5 a water proof ear wax trap located within said receiver tube.

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1 2. The hearing aid of claim 1 wherein said waterproof ear wax trap is constructed from a
2 foamed and stretched PTFE.

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1 3. The hearing aid of claim 1 wherein said foamed and stretched PTFE is a microporous
2 membrane containing more than 9 billion pores per square inch.

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1 4. A hearing aid comprising:

2 a receiver including an aperture end about an axis;

3 an annular locking rib encircling said receiver and lying in a radial plane thereof, said

4 annular locking rib including an annular face and a gap therethrough at said annular
5 face;

6 a receiver tube being rotatable thereon about said axis of said receiver;

7 a cylindrical skirt located on the perimeter of said receiver tube;

8 at least one locking lug on said cylindrical skirt, projecting toward an axis through said
9 receiver tube; and

10 a waterproof ear wax trap located within said receiver tube, said receiver tube being
11 removably connectable to said receiver through disposition of said locking lug through
12 said gap and by alignment and registry of said locking lug with said annular locking rib.

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1 5. The hearing aid of claim 4 wherein said cylindrical skirt includes a tab to facilitate
2 removal of said receiver tube from engagement with the aperture end of said receiver.

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1 6. The hearing aid of claim 4 wherein said waterproof ear wax trap is constructed from a
2 foamed and stretched PTFE.

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1 7. The hearing aid of claim 4 wherein said foamed and stretched PTFE is a microporous
2 membrane containing more than 9 billion pores per square inch.

1 8. The hearing aid of claim 4 wherein said receiver tube is formed from plastic.

1 9. The hearing aid of claim 4 wherein said cylindrical skirt and said annular locking rib
2 are constructed from a material having elastic resiliency.

1 10. A hearing aid of claim 4 wherein said cylindrical skirt and said annular locking rib
2 are formed from plastic.

1 11. A hearing aid comprising:

2 a receiver including an aperture;

3 a receiver tube removably connectable to said receiver;

4 a plurality of phalanges located along the outer perimeter of said receiver tube, extending
5 radially from the center axis of said receiver tube and being operable to engage the
6 receiver at the interior perimeter of the aperture; and

7 a waterproof ear wax trap located within said receiver tube.

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1 12. The hearing aid of claim 11 wherein said receiver further includes means proximate
2 its aperture to assist in securing said receiver tube, by its plurality of phalanges, to said
3 receiver at its aperture, consisting of a plurality of raised grooves, bumps cooperating
4 phalanges or a combination thereof.

1 13. The hearing aid of claim 11 wherein said ear wax trap is constructed from a foamed
2 and stretched PTFE.

1 14. The hearing aid of claim 11 wherein said foamed and stretched PTFE is a
2 microporous membrane containing more than 9 billion pores per square inch.

1 15. A hearing aid comprising:

a receiver including an aperture having a threaded portion;
a receiver tube having a hollowed portion and including a flanged end, said flanged end being coextensive with said aperture and having a radius greater than the radius of said hollowed portion;
a waterproof ear wax trap located within said hollowed portion of said receiver tube; and
a sliding cap, for slipping on to said receiver tube and removably joining said receiver tube to said receiver, having an opening of a radius greater than said hollowed portion radius and less than said flanged end radius, said cap including a threaded portion for cooperative locking engagement with said threaded portion of said aperture.

16. The hearing aid of claim 15 wherein said ear wax trap is constructed from a foamed and stretched PTFE.

17. The hearing aid of claim 15 wherein said foamed and stretched PTFE is a microporous membrane containing more than 9 billion pores per square inch.

18. The hearing aid of claim 15 wherein said receiver tube is formed from plastic.

19. A hearing aid comprising:

a receiver, said receiver including a conically-shaped aperture end, proximate an aperture on said receiver, of tapered cross-section in a direction toward said aperture; said receiver further including a threaded portion proximate said aperture end;

a receiver tube including a cooperating threaded portion being removably connectable into locking engagement with the threaded portion of said receiver; and
an ear wax trap located within said receiver tube.

20. A method of doing business comprising:

the step selected from one or more of producing or distributing said receiver tube and waterproof ear wax trap located within said receiver tube for use in said hearing aid according to claim 1; and

5 selling the receiver tube and waterproof earwax trap located within said receiver tube to
6 the group consisting of audiologists, hearing aid dispensers, consumers or a combination
7 thereof.

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AMENDED CLAIMS

[received by the International Bureau on 10 May 2005 (10.05.05);
original claims 1-20 replaced by amended claims 1-20 (5 pages)]

1. (Amended) A hearing aid comprising:

a receiver;

a receiver tube removably connectable to said receiver; and

a water proof ear wax trap located within said receiver tube[.];

[2. The hearing aid of claim 1 wherein] said waterproof ear wax trap is constructed from a foamed and stretched PTFE microporous membrane containing more than 9 billion pores per square inch.

3. (Cancelled)

4. A hearing aid comprising:

a receiver including an aperture end about an axis;

an annular locking rib encircling said receiver and lying in a radial plane thereof, said annular locking rib including an annular face and a gap therethrough at said annular face;

a receiver tube being rotatable thereon about said axis of said receiver;

a cylindrical skirt located on the perimeter of said receiver tube;

at least one locking lug on said cylindrical skirt, projecting toward an axis through said receiver tube; and

a waterproof ear wax trap located within said receiver tube, said receiver tube being removably connectable to said receiver through disposition of said locking lug through said gap and by alignment and registry of said locking lug with said annular locking rib[.]; said waterproof ear wax trap is constructed from a foamed and stretched PTFE microporous membrane containing more than 9 billion pores per square inch.

5. The hearing aid of claim 4 wherein said cylindrical skirt includes a tab to facilitate removal of said receiver tube from engagement with the aperture end of said receiver.

6. (Cancelled)

7. (Cancelled)

8. The hearing aid of claim 4 wherein said receiver tube is formed from plastic.

9. The hearing aid of claim 4 wherein said cylindrical skirt and said annular locking rib are constructed from a material having elastic resiliency.

10. A hearing aid of claim 4 wherein said cylindrical skirt and said annular locking rib are formed from plastic.

11. (Amended) A hearing aid comprising:

a receiver including an aperture;

a receiver tube removably connectable to said receiver;

a plurality of phalanges located along the outer perimeter of said receiver tube, extending radially from the center axis of said receiver tube and being operable to engage the receiver at the interior perimeter of the aperture; and

a waterproof ear wax trap located within said receiver tube[.];said waterproof ear wax trap is constructed from a foamed and stretched PTFE microporous membrane containing more than 9 billion pores per square inch.

12. The hearing aid of claim 11 wherein said receiver further includes means proximate its aperture to assist in securing said receiver tube, by its plurality of phalanges, to said receiver at its aperture, consisting of a plurality of raised grooves, bumps cooperating phalanges or a combination thereof.

13. (Cancelled)

14. (Cancelled)

15. A hearing aid comprising:

a receiver including an aperture having a threaded portion;

a receiver tube having a hollowed portion and including a flanged end, said flanged end being coextensive with said aperture and having a radius greater than the radius of said hollowed portion;

a waterproof ear wax trap located within said hollowed portion of said receiver tube; and
a sliding cap, for slipping on to said receiver tube and removably joining said receiver tube to said receiver, having an opening of a radius greater than said hollowed portion radius and less than said flanged end radius, said cap including a threaded portion for cooperative locking engagement with said threaded portion of said aperture[.];said

waterproof ear wax trap is constructed from a foamed and stretched PTFE microporous membrane containing more than 9 billion pores per square inch.

16. (Cancelled)

17. (Cancelled)

18. The hearing aid of claim 15 wherein said receiver tube is formed from plastic.

19. A hearing aid comprising:

a receiver, said receiver including a conically-shaped aperture end, proximate an aperture on said receiver, of tapered cross-section in a direction toward said aperture, said receiver further including a threaded portion proximate said aperture end;

a receiver tube including a cooperating threaded portion being removably connectable into locking engagement with the threaded portion of said receiver; and

a[n] waterproof ear wax trap located within said receiver tube[.];said waterproof ear wax trap is constructed from a foamed and stretched PTFE microporous membrane containing more than 9 billion pores per square inch.

20. A method of doing business comprising:

the step selected from one or more of producing or distributing said receiver tube and waterproof ear wax trap located within said receiver tube for use in said hearing aid according to claim 1; and

selling the receiver tube and waterproof earwax trap located within said receiver tube to the group consisting of audiologists, hearing aid dispensers, consumers or a combination thereof.];said waterproof ear wax trap is constructed from a foamed and stretched PTFE microporous membrane containing more than 9 billion pores per square inch.

As amended, the claims now better define the invention in view of the referenced documents in that they clearly recite that the novel hearing aid with receiver tube removably connectable to the receiver has a waterproof earwax trap construction of foamed and stretched PTFE microporous membrane containing more than 9 billion pores per square inch.

Towards this end, replacement pages 9 through 11 are enclosed herewith to reflect the amendments to original claims 1, 4, 11, 15, 19 and 20.

STATEMENT UNDER ARTICLE 19(1)

The Weiss reference, which is asserted as a document of particular relevance, and alleges the invention cannot be considered novel or to involve an inventive step when taken alone, is without merit for the reason that, no where in Weiss is there any disclosure of or reference to a novel hearing aid with receiver tube removably connectable to a receiver and having a waterproof ear trap located within the receiver tube constructed from a foamed and stretched PTFE, let alone a microporous membrane containing more than 9 billion pores per square inch.

U.S. Patent 5,530,763; and U.S. Patent 5,970,157; were cited as documents of particular relevance on the allegation that the claimed invention cannot be considered to involve an inventive step when these documents are combined with one or more other such documents – and that such combination would be obvious to a skilled person in the art.

However, careful scrutiny of these references reveals that, '763 lacks any reference to or disclosure of, a receiver tube removably connectable to the receiver to enable a dispenser to repair hearing aids in his office in a matter of seconds. On the other hand, the hearing aid construction of the invention enables preventative maintenance instead of being limited by current methods, where hearing aid wearers come into the offices of a dispenser and require the hearing aid to be returned to manufacturers for repair due to moisture damage or clogging, instead of permitting changing of the receiver tube every 3 to 6 months, because of the fact that the receiver tube is removably connectable to the receiver and the hearing aid has a water proof ear trap located within the receiver tube. Therefore, even if the '763 reference were combined with Weiss, the invention hearing aid construction would not result – neither is the combination suggestable or obvious, based on any teachings of the combined references.

U.S. Patent 5,970,157 disclose a press-fit ear wax barrier for in-the-ear and in-the-canal type hearing aids; however, careful examination of this reference reveals that it too lacks applicant's hearing aid construction, which comprises a receiver, and a receiver tube removably connectable to said receiver, wherein a waterproof ear trap is located within said receiver tube – thereby permitting in-office removal of ear wax within a matter of minutes and thus not having to send the hearing aid to a manufacturer for repair due to moisture damage or clogging. And even if the PTFE ear wax trap from Weiss were substituted for the trap in the ear hearing device of reference '157, applicant's invention as presently recited

would not result, nor would applicant's invention be obvious, as there is no teaching sufficient for a person skilled in the art to devise applicant's construction on the basis of the combination of '157 with any of these other documents.

Claims 1-20 were replaced by amended claims 1-13.

In view of the foregoing amendments, remarks, and arguments, and in view of submitted replacement pages 9 through 11, containing the amended claims, it is believed that the application as amended clearly defines an inventive step over the cited references and that the invention as presently defined constitutes novelty over these references.